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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,304	12/06/2001	Shunji Nakamura	960456B	7007

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EXAMINER

NADAV, ORI

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,304

Applicant(s)

NAKAMURA, SHUNJI

Examiner

ori nadav

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-14 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,7-9 and 28-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,6 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/970,212.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 6) ☐ Other:

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of the embodiment of figures 30 and 31, reading on claims 5-6 and 10-14 in Paper No. 11 is acknowledged.

Claim Objections

Claims 10 and 11 are objected to because of the following informalities: The term "scrapping" should read "strapping". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the embodiment of figures 30-31 for a strapping word line, a shield electrode and a second wiring, as recited in claims 10-13, respectively. This rejection will be withdrawn if applicant includes claims 10-13 with a different embodiment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5-6, 10-11 and 13-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamamoto et al. (5,895,946).

Hamamoto et al. teach in figure 88A a memory device comprising: a device layer including a silicon layer 211, 212 having first and second diffusion layers (column 23, lines 30-37) formed therein, a gate electrode 207 formed through an insulating film 206 on one side of the silicon layer between the first and second diffusion regions, a capacitor 215 formed on the one side of the silicon layer and having a storage electrode 205 connected to the first diffusion region,

a strapping bit line 210 formed on one side and on the other side of the silicon layer and connected to the second diffusion region (column 28, lines 48-49), and

a support substrate 219 formed on the one side of the semiconductor layer for supporting the device layer,

the semiconductor layer including a first region which is extended in the direction of extension of the bit line and includes the first and second diffused regions, and a

second region ~~which~~ is extended in a direction of extension of the gate electrode in the first region and includes the second diffused region;

a first ~~contact~~ hole being formed in the first region for connecting the first diffused region to the capacitor and

a second ~~contact~~ hole being formed in the second region for connecting the bit line with the ~~second~~ diffused region,

wherein the first and second regions are connected together.

Regarding claim 13, Hamamoto et al. teach a second wiring layer (bit line) on the other side of the semiconductor layer and electrically connected to a region of the semiconductor ~~layer~~ between the first and the second diffused regions.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness ~~rejections~~ set forth in this Office action:

(a) A patent ~~may~~ not be obtained though the invention is not identically disclosed or described as set forth in ~~section~~ 102 of this title, if the differences between the subject matter sought to be patented and the prior art ~~are~~ such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability ~~shall~~ not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamamoto et al. (5,895,946) in view of Ajika et al. (5,798,289).

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Hamamoto et al. teaches substantially the entire claimed structure, as applied to claim 1 above, except a shield electrode formed on the bit line for suppressing interference between the bit lines. Ajika et al. Teach in figure 15 a shield electrode 40 formed above (on) the bit line for suppressing interference between the bit lines. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a shield electrode in Hamamoto et al.'s device, in order to suppress noise in the device.

Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is (703) 308-8138. The Examiner is in the Office generally between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday.

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Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

A handwritten signature in black ink, appearing to read 'Ori Nadav', with a stylized, cursive script.

O.N.
12/11/03

ORI NADAV
PATENT EXAMINER
TECHNOLOGY CENTER 2800